

Application No. 10/084,802
Reply to Office Action of March 17, 2005

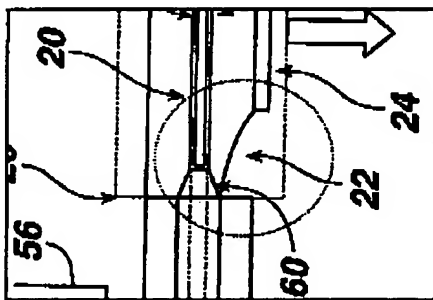
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REMARKS

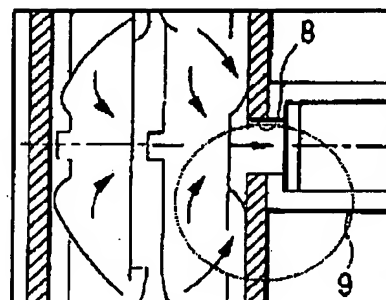
Applicant requests reconsideration of the application and of the pending claims. Applicant respectfully submits that the application is in condition for allowance, and notice to that effect is respectfully requested. Claims 29-43 are currently pending in the application.

Claim 29 was rejected under 35 USC § 102(b) as being anticipated by Kobayashi. The Office Action states, with reference to Fig. 1 of Kobayashi, "whereby a lower wall extends out of the right side wall in a contoured like manner".

With reference to Applicant's Fig. 1 and the specification at page 8, line 26, an embodiment supporting claim 29 having "a contoured lower wall 22" is shown and described. At page 9, line 25, the specification discloses that an embodiment supporting claim 29 "having a lower wall 22 that *slopes* toward the discharge port 24" (emphasis added). A contoured, sloped or curved wall such as evident in Applicant's Fig. 1 (excerpt shown below) is lacking in Kobayashi, both in terms of the written disclosure and in terms of Fig. 1 as cited in the Office Action. Kobayashi discloses a wall with a straight, non-curved profile adjacent to discharge port 8, as shown below in a side-by-side comparison. Kobayashi does not disclose, teach or suggest a contoured lower wall.



Applicant – selection from Fig. 2



Kobayashi – selection from Fig. 1

A portion of each wall adjacent to discharge port is identified with a dashed circle.

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Applicant submits that the cited art does not anticipate claim 29, and that claim 29 is allowable. Notice to that effect is respectfully requested.

Claims 30-31, 33-34 and 40-43 were rejected under 35 USC § 103(a) as being unpatentable over Kobayashi in view of Watts. The Office Action states that Kobayashi "lacks the specific teaching to incorporate the device in between two compounding extruder apparatuses." The Office Action attempts to cure this defect by stating that one skilled in the art could:

"attach Watt 109's two sets of extruder compounding apparatuses onto Kobayashi 459 transition section device in order to propagate a more continuous flow of material between the two extruder apparatuses, resulting in a more ergonomic design for the overall apparatus." (page 3)

An objective of Kobayashi is to "increase amounts to be processed with the screws of the same diameter" by increasing the flow volume. To do this, Kobayashi adds a second flow path along a single shaft as a mirror to the prior art flow path (doubling capacity). Thus, the flow paths for materials are directed inward from each side toward the discharge port 8. Materials move along the first and the second flow path of Kobayashi opposite each other.

An object of Watts is

"is to provide an apparatus and method which are capable of continuously feeding one or more particulate materials to a discharge mechanism in such a manner as to insure a constant density of a given material or materials at the discharge mechanism, as well as a constant load on the discharge mechanism."

A structure in Watts has two metering 26 devices that flow inward to a housing 13 to deliver additives. Watts also discloses a take-off screw 21, which may be more akin to one or the other of screws 2,3 of Kobayashi. To achieve the suggested combination, it would require one of ordinary skill in the art to ignore the similarities of the take-off screw 21 of Watts and the screws 2,3 of Kobayashi, and instead combine metering augers 28 and 32 for metering additives into a hopper with the screws 2,3 for filled resin

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materials. The art must suggest the desirability of the modification. Even if the prior art could be so modified, this would not make the modification obvious unless the prior art suggests the desirability of the modification. In this instance, neither reference suggests such; and, it would be unreasonable to suggest that a set of metering augers used to measure minor components into a feeding device for a take-off screw would appear to be fit for combining with a twin-screw extruder. Each of the metering augers has its own motor and shaft, and is used for a different application than a take-off screw or twin-screw extruder. One of ordinary skill would not have a reasonable expectation of success in combining metering augers with a take-off screw or twin-screw extruder.

While not clear from the references, the Office Action states that the motivation would be "to propagate a *more continuous* flow of material" (emphasis added). But, both references disclose an apparatus operable for continuous use. For the suggested motivation to be useful, there must be a distinction between continuous (as both apparatuses already are) and *more continuous* (the suggested desired result). Applicant submits that there is no meaningful difference, and thus there is no meaningful motivation. Without a meaningful motivation to combine the references, a proper *prima facie* case of obvious cannot be made.

Ergonomics is not discussed in either reference as suggested in the Office Action. But, assuming that one of ordinary skill were looking to solve a problem associated therewith, attaching two metering augers to a compounding apparatus would increase the complexity of the overall apparatus, and would not be a reasonable method of achieving the goal of improved ergonomics. A necessary explanation as to how the proposed combination would have improved ergonomics is not provided.

Claim 33 includes "connecting an upstream compounding apparatus and a downstream compounding apparatus". As discussed, flow paths in Kobayashi converge inward, and there is no upstream relative to downstream – except for the two individual flow paths that, again, flow inward toward each other. In Watts, any upstream or downstream (again, there are two metering augers) are for the additive feeds, and both feed inward to a hopper. Applicant submits that neither reference, nor the combination of

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references, disclose, teach or suggest the invention as defined in claim 33. The combination of two sets of screws, with each screw being downstream of the other, would result in one set of screws, with each screw being downstream of the other; and, likely the combination would not result in one set of two screws connected so that only one screw was downstream of the other screw, as suggested in the Office Action.

Claim 34 relates to a common shaft. Watts does not show a common shaft. It is unclear how Watts could be modified to work with a common shaft. The Office Action makes no suggestion that one of ordinary skill would reasonably expect that such a modification would be successful.

Claims 41 and 43 both relate to length to diameter ratios. The Office Action makes no statement that either of the references discloses, teaches or suggests any such ratio. Further, examination of the references does not indicate that there is a disclosure, suggestion, or teaching of any length to diameter ratio.

All the elements of independent claim 29 (from which claims 30-31 depend) and claim 33 are not shown. A *prima facie* case of obviousness cannot be made without a showing of all the claim elements. Without a *prima facie* case of obviousness, claims are allowable over a 35 USC § 103(a) rejection. Claims 30-31, 34 and 40-43 are dependant claims, and are at least as allowable over a 35 USC § 103(a) rejection as the claim(s) from which they depend.

Applicant submits that there is no disclosure, teaching or suggestion in the references, alone or in combination, which could support a *prima facie* obviousness rejection for any of claims 30-31, 33-34 and 40-43. Applicant respectfully requests that the rejection to claims 30-31, 33-34 and 40-43 be withdrawn, and a notice of allowability issued.

Claims 32, 35 and 36-39 were rejected under 35 USC § 103(a) as being unpatentable over Kobayashi in view of Watts and further in view of Lowe.

As noted above, the combination of Kobayashi and Watts is improper, and even if one were to make the combination, the claimed invention would not result for at least the reasons listed above. The addition of Lowe does not affect the analysis. The Office

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Action relies on Lowe to provide different missing pieces, such as a disconnectable coupling. But, the addition of Lowe does not supply the missing pieces discussed above. Without providing all the claim elements, a *prima facie* case of obviousness has not been made.

Applicant submits that claims 32, 35 and 36-39 depend from allowable claims, and are allowable over the art of record. Further, Applicant respectfully requests that the rejection to claims 32, 35 and 36-39 be withdrawn, and a notice of allowability issued.

Claims 29-31, 33-34 and 36-43 were rejected for obvious-type double patenting over U.S. Patent No. 6,572,253. Please find filed herewith a terminal disclaimer in accordance with 37 CFR § 1.321(c). Such a disclaimer should remove the rejection. Notice to that effect is respectfully requested.

In view of the remarks presented herein, Applicant submits that the case is in condition for allowance and respectfully requests a notice to that effect. If, however, any minor issues remain unresolved, the Examiner is invited to telephone the Applicant's counsel at the number provided below. Any additional fees for the accompanying response are hereby petitioned for, and the Director is authorized to charge such fees as may be required to Deposit Account 07-0868.

Respectfully submitted,



Shawn A. McClintic
Registration No. 45,856

GE Global Research
One Research Circle
Niskayuna, NY 12309
Telephone: (518) 387-5448
Customer No.: 006147